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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,939	02/28/2002	Serge Bellet	U 013762-9	3019
140	7590	03/09/2005	EXAMINER	
LADAS & PARRY 26 WEST 61ST STREET NEW YORK, NY 10023			BHAT, NINA NMN	
			ART UNIT	PAPER NUMBER
			1764	
DATE MAILED: 03/09/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/009,939

Applicant(s)

BELLET ET AL.

Examiner

N. Bhat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 5-14 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 15-19 and 21 is/are rejected.
- 7) ☒ Claim(s) 5-14 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12-11-2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/11/01, 1/31/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The disclosure is objected to because of the following informalities:

In the specification applicant is required to include the heading "Brief Description of the Drawings". This insertion should be done on Page 16, line 10. Appropriate correction is required.

2. Claims 5-14 and 20 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 5-14 have not been further treated on the merits.

3. Claims 2-5 and 7 are objected to because of the following informalities:

Applicant has used the linking term "preferably" in order to link ranges, which A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" or "preferably" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App.

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1949). In the present instance, claim 2 recites the broad recitation hydrocarbon fuel, and the claim also recites one or more gaseous alkanes which is the narrower statement of the range/limitation. Applicant is suggested to draft the claims, which recite the broad range and then subsequently draft a dependent claim, which narrows the range. Although some of these claims have been withdrawn. The examiner is commenting so that applicant can make the appropriate changes to the claims to advance prosecution.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-4 and 15-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klaus.

Klaus teaches the invention substantially as claimed. Klaus teaches a process for cracking hydrocarbons wherein the hydrocarbons in the cracking furnaces are

indirectly heated by the heat incurred in the combustion of a heating medium with oxygen. Klaus specifically teaches using a gas turbine, which uses the waste from the combustion gases to provide electricity, which in turn is employed to heat the gases for steam cracking. Specifically, the process uses gas turbines for generating electrical energy. The energy can be used within the plant such as to operate pumps and compressors and the waste gases from the turbines are high in oxygen content and can be used to preheat the hydrocarbons, which are to be cracked in the olefin production. The temperature of the turbine waste gas is approximately 550°C, which is admixed with outside air to obtain a temperature of about 400°C, which is an ideal temperature to achieve steam cracking of hydrocarbons into olefins.[Note the abstract, Column 1, lines 40-63, Column 2, lines 14-30, and Column 4, lines 45-65]

However, Klaus does not teach the electrical heater apparatus or induction heating apparatus, which is employed in the cracking of the hydrocarbons into olefins.

Klaus teaches the concept of cogeneration which comprises a gas turbine connected to an air line and using the exhaust gas to generate electricity as well as using the exhaust gases to preheat the hydrocarbon gas for cracking. Klaus teaches the electricity generated can be used to supply energy to electrical apparatus such as pumps and compressors and does not teach that an induction furnace is used for steam cracking. Steam cracking takes place in a convection type of reactor where convection/radiant heat is employed which indirectly uses heated air from the turbines and air is used to preheat the hydrocarbon gases to a temperature of 400°C where cracking takes place to produce olefins. Admittedly an induction furnace is not used as

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claimed by applicant however, the reactor employed by Klaus is functionally equivalent to the induction furnace and which is powered by a cogeneration system thus rendering the invention as a whole obvious to one having ordinary skill in the art. The art fairly teaches and suggests providing a cogeneration system, which supplied heat required for heating steam and hydrocarbons by combustion of a fuel to produce heat and mechanical work transformed into electricity by an alternator or electric generator. Specifically, a gas turbine is used to produce hot gases from the turbine which are recovered admixed with air or oxidizing agent to yield a temperature between 400-500°C which is subsequently used to heat the hydrocarbon and steam for cracking.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Guide et al. teach a power plant integrating coal fired steam boiler with an air turbine.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Bhat whose telephone number is 571-272-1397. The examiner can normally be reached on Monday-Friday, 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'N. Bhat', with a long, sweeping horizontal stroke extending to the right.

N. Bhat
Primary Examiner
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